

REMARKS

Claims 24-39 and 41-57 are pending in the application. Claim 40 has been cancelled from the application in this Reply. New claims 57-58 have been added to the application. Claims 24, 42 and 44 have been amended to overcome the examiner's indefiniteness rejection. Claims 36 and 38 have been amended to claim structural features of the apparatus. Finally, allowable claims 43 and 47 have been placed in independent form in this Reply. No new matter has been added to the application by way of these claims amendments.

The examiner's claim rejections are overcome or they are traversed as set forth below.

I. SUMMARY OF THE INVENTION

The present invention is related to apparatuses and methods for separating different molecules in an admixture of different molecules using a localized photopotential. The apparatuses and methods of the present invention differ from those of the prior art at least because the process and methods are capable of moving molecules in an admixture of molecules by moving the localized photopotential relative to the molecules in a manner that allows for the separation of at least two different types molecules in the admixture.

II. THE 112, 2nd PARAGRAPH REJECTIONS

The examiner rejected claims 24-56 for being indefinite under 35 USC 112, 2nd Paragraph. The examiner's rejections are overcome or they are traversed as follows:

- The examiner objected to claim 24 because it is an apparatus claim that allegedly includes a process step. The applicants have overcome this rejection by amending claim 24 such that the apparatus includes "an electrically conductive layer" including at least two different molecules that are separable by the apparatus. This amended feature of claim 24 is not a process limitation. Instead, the amended language defines a property of the at least two different molecules; namely that the two different molecules are separable by the apparatus. The different molecules are separable based, for example, on differences in their size or charge.
- The applicants amended claim 24 above to delete the reference to an "electrolyte medium" and to replace it with the term "electrically conductive layer".

- The examiner objected to claim 24 because it includes an apparent inconsistency. This inconsistency is eliminated in amended claim 24 above.
- The examiner's objection to claim 40 is moot in view of the applicants' cancellation of the claim from the application.
- The examiner objected to claim 44 because it omits an essential step of the method – namely step of separating the charged molecules. This objection has been overcome by amending claim 44 to include a result of the method.

III. THE ANTICIPATION REJECTION

In order to anticipate, each element of a claim must be found identically or must be inherent from a single prior art reference. For the reasons indicated below, neither Gurtner et al. nor Kakutani et al. anticipate any application claims.

A. Traverse Of The Gurtner et al. Anticipation Rejection

The examiner rejected claims 24-38 and 40 under 35 USC 102(b) for being anticipated by Gurtner et al. The examiner's anticipation rejection relies on the position that the recitation in claim 24 of an electrically conductive layer including two different molecules that are separable by the apparatus is an improper method limitation. While it is believed that original claim 24 properly recited an apparatus, the Applicants have amended claim 24 above to more clearly define the objectionable claim limitation as an apparatus claim limitation. Specifically, the limitation is amended above to define an electrically conductive layer that includes at least two different molecules that are defined by their properties – they are separable by the apparatus. The amendment to the two molecule claim language is similar to defining two compositions by their pHs – the claim recites a property of the two different molecules and not a process step.

If the examiner agrees that the amendment to claim 24 overcomes his rejection of the claim because it includes an improper practice limitation, then the examiner's rejection of claims 24-38 for being anticipated by Gurtner et al. must be withdrawn. The examiner admitted in the Official Action that Gurtner et al. does not disclose an electrically conductive layer including at least two different molecules that are separable by the apparatus. Therefore, Gurtner cannot anticipate pending 24-38 because the claims include a feature not disclosed by or inherent from Gurtner.

The rejection of claim 40 for anticipation is moot because claim 40 is canceled from the

application in this amendment.

It is believed that the claims identified below are novel and patentable over Gurtner et al. for the following reasons:

- Gurtner et al. does not disclose an intermittent, modulated, pulsed, or chopped photon energy source of claims 31-33. It is the examiner's position that Gurtner et al. discloses these claimed features in the "Experimental Setup" section on page 8590. However all that Gurtner et al. discloses in this section is a laser light source that is "attenuated" by a filter wheel. Attenuate is defined as "to lessen the amount of force, magnitude or value" (Webster's Ninth New Collegiate Dictionary (1990)). Attenuation is a lessening of the intensity of a light beam. In claims 31-33, the light beam is not attenuated – the beam intensity does not change. Instead, the beam is applied in some sort of off/on/off manner.
- Gurtner does not disclose applying a voltage using a potentiostat of claim 35.
- Gurtner et al. does not disclose modulating or alternating voltage source of claims 36 and 38. The examiner dismissed these claims because they claim only an intended use and include no structural modifications to the process. Claims 36 and 38 are amended above to further define the claimed voltage source. The claims narrow the voltage source by type and structurally limit the apparatus claims. Gurtner et al. does not disclose alternating or modulated voltage sources and claims 36 and 38 are, therefore, novel and patentable over Gurtner et al.

B. Traverse Of The Kakutani et al. Anticipation Rejection

The examiner rejected claims 24-26, 28-36, 38-42, 44-46, 48-49, 51, and 55-56 under 35 USC 102(b) as being anticipated by Kakutani et al. (USP No. 5,151,741).

Kakutani et al. does not anticipate any application claim because it does not disclose every feature of the claimed inventions. Namely, Kakutani et al. does not disclose an apparatus or method that includes or employs an electrically conductive layer located between the semiconductor material and the counter electrode.

Referring to Figure 2 of Kakutani et al., the imaging device includes a developing solution layer (103) including a dispersion of electrosensitive toners. The developing solution is an insulating solvent such as kerosene. Kerosene is a nonconducting fluid. Therefore, it is impossible for Kakutani et al. to disclose an electrically conductive layer that contacts a semiconductor and a

counter electrode that includes two different molecules that are separable by the apparatus.

IV. THE OBVIOUSNESS REJECTIONS

The examiner rejected claims 50, 53 and 54 under 35 USC 103(a) as being unpatentable over Kakutani et al.

As set forth above, Kakutani et al. does not disclose an electrically conductive layer that includes at least two different separable molecules. For at least this reason, Kakutani et al. cannot render claims 50, 53 and 54 obvious.

V. NEW CLAIM 57-58

New claim 57 is essentially identical pending claim 24 except that the two different molecules that are located in the electrically conductive layer have their differences defined by size, mass, or electric potential. It is believed that pending application claim 57 is patentable over the prior art of record.

New claim 58 is dependent upon claim 24 and characterizes the at least two separable molecules as biomolecules. Claim 58 is patentable over Gurtner et al. and Kakutani et al. because (1) Gurtner does not disclose or suggest an apparatus that includes two different separable biomolecules; and (2) Kakutani et al. is directed to an apparatus that moves pigment molecules – it is unrelated to separating biomolecules.

VI. THE ALLOWABLE SUBJECT MATTER

The examiner indicated that claims 43 and 47 would be allowable if rewritten in independent form. Claims 43 and 47 have been amended above to confer with amendment to independent claims. As a result, claims 43 and 47 are now believed to be allowable.

CONCLUSION

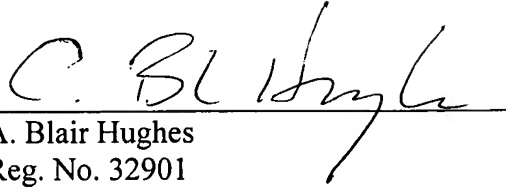
It is believed that the specification, claim and drawing amendments made above, and the statements in favor of patentability presented above overcome and/or traverse all objections and rejections raised by the examiner in the January 24, 2005 Final Rejection. Favorable reconsideration and allowance of all pending application claims 24-39 and 41-58 is courteously

solicited.

Respectfully submitted,

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